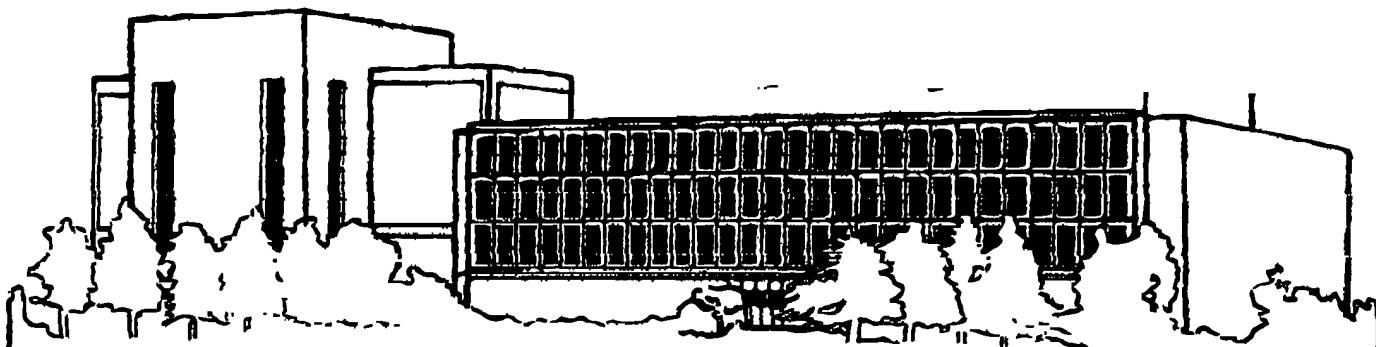


## EXHIBIT A

**General Telefax Cover Page**

**From:** Chemical Abstracts Service      **Telefax:** 614-447-3713  
P.O. Box 3012  
2540 Olentangy River Road  
Columbus, Ohio 43210

**Send To:** Name: Marjorie LeFevre (Alliant Techsystems Inc., Magna, Utah)  
Telephone (fax machine): 801-251-2328  
Telephone (person): 801-251-2070  
Date: 4 January 2000  
Sender: David W. Weisgerber (Internet: [dweisgerb@cas.org](mailto:dweisgerb@cas.org))  
(Phone: 1-614-447-3640; FAX: 1-614-461-7140)

**No. of pages transmitted (including this cover page):** 5



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## TELEFAX LETTER

4 January 2000

David W. Weisgerber  
Editor  
Office of the Editor  
614-447-3640

Ms. Marjorie LeFevre  
Alliant Techsystems, Inc.  
P.O. Box 99  
Magna, Utah 84044-0099

Dear Ms. LeFevre,

Your fax of 23 December to Customer Service has just been sent to my attention. I will try to provide additional information that may assist you in your discussions with the patent office.

The two CAS Registrations in question, 9010-89-3 and 25103-87-1, clearly represent two very different polymers. While both polyesters are prepared from Hexanedioic acid, the diols involved are quite different. One polyester [25103-87-1] has 1,4-butanediol as the alcoholic component which reacts with the diacid to form the polyester linkages. The second polyester [9010-89-3] has diethylene glycol as the alcoholic component. In addition to providing the alcohol groups that react with the acid to form the polyester linkages, diethylene glycol possesses an ether linkage that is not present in the 1,4-butanediol-based polyester.

I have attached displays of the CAS Registry File records for these two polyesters. There are several points that may be worth noting:

1. In addition to the quite different systematic names for the alcoholic monomers (i.e., 2,2'-oxybis[ethanol] and 1,4-butanediol), the molecular formulas and CAS Registry Numbers for the two monomers are also quite different:
  - Molecular formulas C<sub>4</sub>H<sub>10</sub>O<sub>3</sub> and C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>, respectively - Note the additional oxygen atom in the diethylene glycol
  - CAS Registry Numbers 111-46-6 and CAS 110-63-4, respectively
2. The Polymer Class Terms (PCT) assigned to the two polymers are different:
  - Polyester, Polyester formed, Polyether for 9010-89-3
  - Polyester, Polyester formed for 25103-87-1

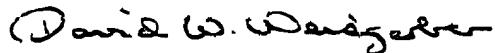
The Polymer Class Terms identify the chemical functional groups present in the final polymers. Note the presence of the polyether functional group in the case of the polyester prepared from diethylene glycol [9010-89-3].

3. The two polymers are cited in the EPA Toxic Substances Control Act (TSCA) Inventory (this is indicated by the "TSCA" code that appears in the Locator (LC) field in the two displays. This is an indication of the distinctive nature of the two polymers since both are included on the inventory. Each unique commercial substance appears with its own CAS Registry Number on the inventory.

It may be worth noting that within the *Chemical Abstracts* database, there are 23 documents cited in which both polymers are indexed, 6 of these are patent documents. This again is an indication of their distinctive natures.

I hope this information may be of help to you. I apologize for the delay in responding to your request for additional information.

Sincerely,



David W. Weisgerber  
Editor, Chemical Abstracts

RN 9010-09-3 REGISTRY REGISTRY COPYRIGHT 2000 ACS  
IN 9010-09-3 REGISTRY

CN Hexanedioic acid, polymer with 2,2'-oxybis[ethanol] (SCI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Adipic acid, polyester with diethylene glycol (SCI)

CN Diethylene glycol, polyester with adipic acid (SCI)

CN Ethanol, 2,2'-oxybis-, polymer with hexanedioic acid (SCI)

OTHER NAMES:

CN Adipic acid-diethylene glycol copolymer

CN Adipic acid-diethylene glycol oligomer

CN Adipic acid-diethylene glycol polyester

CN Adipic acid-diethylene glycol polymer

CN Diethylene glycol-adipic acid copolymer

CN Diethylene glycol-adipic acid polymer

CN Diethylene glycol-hexanedioic acid copolymer

CN Oligodiethylene glycol adipate

CN TV

DR 52283-87-1, 246223-71-2

MF (C6 H10 O4 . C4 H10 O3)x

CI PMS, COM

PCT Polyester, Polyester formed, Polyether ← Note "Polyether"

LC STN Files: CA, CAPLUS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, TOXLIT, USPATFULL

Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 124-04-9

CMF C6 H10 O4

CM 2

CRN 111-46-6

← Registry Number for diethylene glycol\*

CMF C4 H10 O3

← Molecular formula for diethylene glycol\*

\* systematic name 2,2'-oxybis[ethanol]

RN 25102 97 1 REGISTRY REGISTRY COPYRIGHT 2000 ACS  
RN 25103-87-1 REGISTRY  
CN Hexanedioic acid, polymer with 1,4-butanediol (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1,4-Butanediol, polyester with adipic acid (8CI)  
CN 1,4-Butanediol, polymer with hexanedioic acid (9CI)  
CN Adipic acid, polyester with 1,4-butanediol (8CI)  
OTHER NAMES:  
CN 1,4-Butanediol-adipic acid copolymer  
CN 1,4-Butanediol-hexanedioic acid copolymer  
CN Adipic acid-1,4-butanediol copolymer  
CN adipic acid-1,4-butanediol copolymers  
CN Adipic acid-1,4-butanediol polyester  
CN Adipic acid-1,4-butanediol polymer  
CN Adipic acid-1,4-butylene glycol copolymer  
CN Adipic acid-1,4-butylene glycol polymer  
CN Adipic acid-butanediol copolymer  
CN Adipic acid-butanediol polymer  
CN Adipic acid-butylene glycol copolymer  
CN Adipic acid-butylene glycol polymer  
CN Adipic acid-tetramethylene glycol copolymer  
CN Adipic acid-tetramethylene glycol polymer  
CN Butylene adipate polymer  
CN Butylene glycol-adipic acid copolymer  
CN PBAG  
CN Poly(1,4-butanediol adipate)  
CN Poly(1,4-butylene adipate)  
CN Poly(butylene adipate)  
CN Poly(tetramethylene adipate)  
CN S 102250  
DR 105866-32-8  
MF (C6 H10 O4 . C4 H10 O2)X  
CI PMS, COM  
PCT Polyester, Polyester formed  
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CHEMCATS,  
CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, MSDS-CMS, PIRA, TOXLINE,  
TOXSLIT, USPATFULL, VTB  
Other Sources: DSL\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 124-04-9  
CMF C6 H10 O4

CM 2

CRN 110-63-4 ← CAS Registry Number for 1,4-Butanediol  
CMF C4 H10 O2 ← Molecular formula for 1,4-Butanediol